



EPA Office of Prevention, Pesticides, and Toxic Substances

**How To Comply with the Worker Protection Standard
for Agricultural Pesticides: What Employers Need to Know
Unit 5: Further Requirements for Employers of Handlers**

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UNIT 5

FURTHER REQUIREMENTS FOR EMPLOYERS OF HANDLERS

Unit 3 described the WPS protections that employers must provide to both worker and handler employees. This unit describes the **additional** WPS protections that employers are required to provide only to their handler employees.

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RESTRICTIONS DURING APPLICATIONS AND MONITORING HANDLERS

BASIC RESPONSIBILITIES

(See Also Specific Duties Section Below)

Handler employers must make sure that:

- pesticides do not touch **people**, other than appropriately trained and equipped handlers, during pesticide applications, and
- **pesticide handlers** are monitored, as described below, when handling certain types of pesticides.

Pesticide handlers must make sure that pesticides do not touch **people**, other than appropriately trained and equipped handlers, during pesticide applications.



SPECIFIC DUTIES

Restrictions During Applications

Both handler employers and pesticide handlers must make sure that each pesticide is applied so that it does not contact, either directly or through drift, anyone except appropriately trained and equipped handlers.

Monitoring Handlers

1. Pesticides with skull and crossbones

At least once every 2 hours, someone must check on — by sight or by voice communication — any handler who is handling a pesticide that has a skull and crossbones symbol on its label. (For monitoring the handling of fumigants in greenhouses, see immediately below.)

2. Fumigants handled in greenhouses

Someone must maintain constant visual or voice contact with any handler who is applying or otherwise handling a fumigant in a greenhouse. This includes handlers who enter the greenhouse during fumigation to operate ventilation systems, adjust tarps or other coverings used in the fumigation, or check air concentration levels. The person monitoring the fumigant handler must:

- be trained as a pesticide handler, and
- have immediate access to the PPE that the fumigant labeling requires for applicators.

Fumigant

Any pesticide product that is a vapor or gas, or forms a vapor or gas on application, and whose method of pesticidal action is through the gaseous state.

SPECIFIC INSTRUCTIONS FOR HANDLERS

BASIC RESPONSIBILITIES

(See Also Specific Duties Section Below)

Handler employers must make sure that, before **handlers** do any handling task, the handlers:

- are given information from the pesticide labeling and have access to the labeling itself, and
- are instructed in the safe operation of the equipment they will be using.

Commercial (custom) handler employers must make sure that, whenever one of their handlers will be doing pesticide handling tasks (including tasks as a crop advisor) on an agricultural establishment, he or she is aware of specific information, described below, concerning pesticide-treated areas on the agricultural establishment.



Option: You may allow handlers to read the labeling themselves, if they are able to read and understand it.

SPECIFIC DUTIES

Labeling Access and Information

1. Inform handlers, in a manner they can understand, about all labeling requirements related to safe use of the pesticide, including at least:

- the signal word,
- human hazard statements and precautions,
- personal protective equipment requirements,
- first aid instructions,
- environmental precautions, and
- any additional precautions about the handling task to be performed.

2. Provide handlers access to the pesticide labeling information during handling tasks.

Safe Operation of Equipment

Make sure that handlers know how to safely and correctly use all equipment they are assigned to use for handling pesticides, including, if applicable, how to avoid drift and how to use chemigation equipment safely.

Instructions for Commercial Pesticide Handlers

Commercial (custom) pesticide handler employers must make sure that their handler employees are informed about:

1. Specific location and description of any areas on the agricultural establishment:
 - that may be treated with a pesticide or be under a restricted-entry interval while the commercial handler will be there, **and**
 - that the commercial handler may be in (or walk within 1/4 mile of).
2. Restrictions on entering those areas.

For example, if custom applicators are scheduled to use ground equipment to apply a pesticide on a farm, they need to be informed of any nearby areas on the farm that they should stay out of because the area has an REI in effect. Or if commercial crop advisors are scheduled to scout in an area on a farm that remains under an REI, they need to be told what personal protective equipment they must wear while in that area.

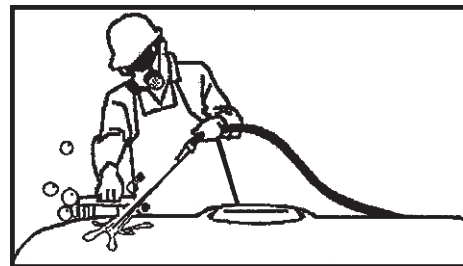
Operators of agricultural establishments are required to make sure that commercial handler employers have this information (p. 26).

EQUIPMENT SAFETY

BASIC RESPONSIBILITIES

(See Also Specific Duties Section Below)

Handler employers must make sure that equipment used for mixing, loading, transferring, or applying pesticides (pesticide handling equipment) is inspected and repaired and that **persons repairing, cleaning, or adjusting** such equipment are protected or informed, as described below.



SPECIFIC DUTIES

Equipment Inspection

Inspect pesticide handling equipment before each day of use for leaks, clogging, and worn or damaged parts. Repair or replace any damaged equipment.

Protections for Persons Maintaining Equipment

Remove pesticide residues from pesticide handling equipment before anyone other than an appropriately trained and equipped handler is allowed to repair, clean, or adjust it.

Exception

If it is not feasible to remove pesticide residues from pesticide handling equipment, and the people who will be repairing, cleaning, or adjusting the equipment are not your employees (and, therefore, are not handlers for whom you are responsible under the WPS), you must inform them:

- that the equipment may be contaminated with pesticides,
- of the potentially harmful effects of exposure to pesticides, and
- how to correctly handle such equipment.

For an example of what information to give those who clean and maintain equipment for you, see page 97.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

BASIC RESPONSIBILITIES

(See Also Specific Duties Section Below)

Handler employers must make sure that **pesticide handlers**:

- are provided with the PPE the pesticide labeling requires for the task,
- wear the PPE for the entire handling task, and
- use the PPE correctly.

Each pesticide handler is responsible for wearing the required personal protective equipment during the entire handling task.

SPECIFIC DUTIES

Duties Related to Personal Protective Equipment

Employers must:

1. Provide handlers with the appropriate PPE in clean and operating condition.
2. Make sure the handlers wear the PPE correctly and use it according to the manufacturer's instructions. If a handler wears a respirator, make sure that it fits the wearer correctly.
3. Inspect all PPE before each day of use for leaks, holes, tears, or worn places, and repair or discard any damaged equipment.
4. Provide handlers with clean places away from pesticide storage and pesticide use areas to:
 - store personal clothing not in use,
 - put on PPE at the start of any exposure period,
 - take off PPE at the end of any exposure period.
5. Take any necessary steps to prevent heat illness (too much heat stress) while PPE is being worn.
6. Do not allow any handler to wear home or take home PPE contaminated with pesticides.

Cleaning and Maintaining PPE

Employers must do the following:

1. Keep pesticide-contaminated PPE away from other clothing or laundry, and wash it separately.
2. If PPE will be reused, clean it before each day of reuse according to the instructions from the PPE manufacturer unless the pesticide labeling specifies other requirements. If there are no such instructions or requirements, wash PPE thoroughly in detergent and hot water.
3. Thoroughly dry the clean PPE before it is stored, or put it in a well-ventilated place to dry.
4. Store clean PPE separately from personal clothing and away from pesticide-contaminated areas.

In the pesticide labeling, PPE for handling activities is listed in the "Hazards to Humans" section.

PPE is coveralls, respirators, protective eyewear, and chemical-resistant suits, gloves, footwear, aprons and headgear. See definitions, p. 64. A chemical-resistance chart is provided in Appendix B, p. 113.

Exceptions to PPE: Handler employers may allow handlers to omit some of the PPE listed on the pesticide labeling for a handling activity if the handlers are using a closed system or are working in a cockpit or in an enclosed cab. See pages 66-67.

Replacing Respirator Filters, Cartridges, or Canisters

Employers must:

1. Replace dust/mist respirator filters:
 - when breathing resistance becomes excessive,
 - if the filter is damaged or torn,
 - whenever the respirator manufacturer or pesticide labeling says to replace them (if the instructions differ, change the filter at the shorter interval),
 - at the end of each day's work period, if no other instructions or indications of service life are available.
2. Replace gas- and vapor-removing respirator cartridges or canisters:
 - at the first indication of odor, taste, or irritation,
 - when the respirator manufacturer or pesticide labeling says to replace them (if instructions differ, change the cartridge or canisters at the shorter interval),
 - at the end of each day's work period, if no other instruction or indications of service life are available.

Disposal of PPE

Employers must:

1. Discard coveralls or other absorbent materials that have been drenched or heavily contaminated with an undiluted pesticide that has the signal word "DANGER" or "WARNING" on the labeling. They must not be reused.
2. Comply with any applicable Federal, State, Tribal, and local regulations when disposing of PPE that cannot be cleaned correctly.

Instructions for Persons Who Clean PPE

Employers must inform people who clean or launder PPE:

- that the PPE may be contaminated with pesticides,
- of the potentially harmful effects of exposure to pesticides,
- how to protect themselves when handling contaminated PPE, and
- how to clean PPE correctly.

For more information about laundering pesticide-contaminated clothing, please visit the Worker Protection Standard topic page on the Ag Center's Web site at:

<http://www.epa.gov/agriculture/twor.html>

For an example of what to tell people who clean PPE, see page 95.

Personal Protective Equipment (PPE) Definitions

Personal protective equipment:

Apparel and devices worn to protect the body from contact with pesticides or pesticide residues, including: coveralls, chemical-resistant suits, gloves, footwear, aprons, and headgear, protective eyewear, and respirators. *While the following attire is not defined as PPE, the labeling may require pesticide handlers or early-entry workers to wear it for some tasks: long- and short-sleeved shirts, long and short pants, shoes and socks, other items of regular work clothing. If such non-PPE attire is required, the employer must make sure that it is worn.*

Chemical-resistant:

Allows no measurable amount of the pesticide being used to move through the material during use.

Waterproof:

Allows no measurable movement of water (or water-based solutions) through the material during use.

Chemical-resistant footwear:

Chemical-resistant shoes; chemical-resistant boots; or chemical-resistant shoe coverings worn over shoes or boots. *Substitution:* Leather boots may be worn in rough terrain, if chemical-resistant footwear with sufficient durability and a tread appropriate for wear in such terrain is not obtainable.

Protective eyewear:

Goggles, a face shield, or safety glasses with front, brow, and temple protection. *Substitution:* A full-face respirator may be worn instead of protective eyewear.

Chemical-resistant suit:

A loose-fitting, one- or two-piece, chemical-resistant garment that covers, at a minimum, the entire body except head, hands, and feet.

Coverall:

A loose-fitting one- or two-piece garment that covers, at a minimum, the entire body except head, hands, and feet. Coveralls are made of fabric such as cotton or a cotton-polyester blend, and are not chemical-resistant. The pesticide labeling may specify that the coveralls be worn over a layer of clothing. *Substitution:* A chemical-resistant suit may be worn instead of coveralls and any required inner layer of clothing.

Chemical-resistant apron:

An apron that is made of chemical-resistant material and that covers the front of the body from mid-chest to the knees. *Substitution:* If a chemical-resistant suit is worn, no apron is required.

Respirator:

A device that protects the respiratory system. It must be the type listed on the pesticide label (or one that is more protective) and must be appropriate for the pesticide product being used and for the activity being performed. *Substitutions:* A respirator with a canister approved for pesticides or with an organic-vapor cartridge equipped with a pesticide prefilter may be worn instead of a dust/mist filtering respirator.

Personal Protective Equipment (PPE) Definitions (continued)

Chemical-resistant headgear:

A chemical-resistant hood or a chemical-resistant hat with a wide brim.

Gloves:

Hand-coverings that are the type listed on the pesticide label.

- Gloves made of leather, cotton, or other absorbent materials **must not be worn** for handling or early-entry activities unless these materials are listed on the pesticide labeling as acceptable for such use.
- Chemical-resistant gloves with non-separable absorbent lining materials **must not be worn** for handling or early-entry activities. A chemical-resistance chart is provided in Appendix B, p. 113.
- *Substitution:* Leather gloves may be worn over chemical-resistant liners, if chemical-resistant gloves with sufficient durability and suppleness are not obtainable. However, after leather gloves have been worn for protection from pesticide exposure, they may only be worn with chemical-resistant liners and may not be worn for any other use.

Separable glove liners:

Separable glove liners are separate glove-like hand coverings, made of lightweight material, with or without fingers.

- Work gloves made from lightweight cotton or poly-type material are considered to be glove liners, if worn beneath chemical-resistant gloves.
- Unless the pesticide product labeling specifically prohibits their use, separable glove liners may be worn beneath chemical-resistant gloves, *provided* the liners do not extend outside the chemical-resistant gloves that are worn over them.
- Once used for handling or early-entry activities, separable glove liners **must be discarded immediately** after a total of 10 hours of use **or** within 24 hours of first use, whichever occurs first. The liners **must be replaced immediately** if they come into direct contact with pesticides. Pesticide-contaminated liners must be disposed of in accordance with any federal, state, or local regulations.

EXCEPTIONS TO PPE REQUIREMENTS

BASIC RESPONSIBILITIES

(See Also Specific Duties Section Below)

Handler employers may allow **handlers** to omit some of the PPE listed on the pesticide labeling for a handling task if the handlers are:

- using a closed system, or
- in an enclosed cab, or
- in a cockpit.

SPECIFIC DUTIES

Closed Systems

Closed systems are systems designed by the manufacturer to enclose the pesticide to prevent it from contacting handlers or other people while it is being handled. Such systems must function properly and be used and maintained in accordance with the manufacturer's written operating instructions.

1. When using a closed system to mix or load pesticides with the signal word "DANGER" or "WARNING," handlers need not wear all the PPE listed on the pesticide labeling, but must wear at least:

- long-sleeved shirt and long pants,
- shoes and socks,
- a chemical-resistant apron, and
- protective gloves specified on the pesticide labeling for mixing, loading, and other handling tasks.

2. When using a closed system to mix or load pesticides with the signal word "CAUTION," handlers need not wear all the PPE listed on the pesticide labeling, but must wear at least:

- long-sleeved shirt and long pants, and
- shoes and socks.

3. When using a closed system to do handling tasks other than mixing and loading with **any** pesticide, handlers need not wear all of the PPE listed on the pesticide labeling, but must wear at least:

- long-sleeved shirt and long pants, and
- shoes and socks.

Such closed systems might include closed application systems designed to incorporate pesticides into soil, but only if the system does not allow any pesticide contact with the air throughout the entire application process.

4. When using a closed system that operates under pressure, handlers may wear the reduced PPE specified above, but must **add** protective eyewear.

Enclosed Cabs

Enclosed cabs must have a nonporous barrier that totally surrounds the occupants and prevents contact with pesticides outside of the cab.

Enclosed cabs that provide respiratory protection must have a properly functioning ventilation system that is used and maintained according to the manufacturer's written operating instructions. The cab must be declared in writing by the manufacturer or by a



These exceptions to PPE are allowed unless expressly prohibited by product labeling.

Even when reduced PPE is permitted to be worn during a task, handlers must be provided all PPE required by the pesticide labeling for that task and have it immediately available for use in an emergency.

governmental agency to provide at least as much respiratory protection as the type of respirator listed on the pesticide labeling.

Examples:

Some enclosed-cab systems provide respiratory protection equivalent to a dust/mist filtering respirator and could, therefore, be used as a substitute when that type of respirator is specified on the product labeling. Other enclosed-cab systems are equipped to remove organic vapors as well as dusts and mists and could be used as a substitute when either the dust/mist filtering respirator or an organic-vapor-removing respirator is specified on the product labeling.

1. Enclosed cabs that do not provide respiratory protection — In an enclosed cab that does not provide respiratory protection, handlers need not wear all the PPE listed on the pesticide labeling, but must wear at least:

- long-sleeved shirt and long pants,
- shoes and socks, and
- any respirator required for the handling task.

2. Enclosed cabs that provide respiratory protection — In an enclosed cab that provides respiratory protection equal to the labeling-required respirator, handlers need not wear all the PPE listed on the pesticide labeling, but must wear at least:

- long-sleeved shirt and long pants, and
- shoes and socks.

3. In any enclosed cab where reduced PPE is worn — Handlers must:

- keep immediately available all PPE listed on the labeling for the type of task being performed,
- store the PPE in a chemical resistant container (such as a plastic bag),
- wear the PPE if it is necessary to leave the cab and contact pesticide-treated surfaces in the treated area, and
- take off PPE that was worn in the treated area before reentering the cab in order to prevent contamination of the inside of the cab.

Note: If the PPE that was worn in the treated area needs to be stored inside the enclosed cab, it must be stored in such a way that will prevent contaminating the inside of the cab. One way to achieve this would be to store the contaminated PPE in a chemical-resistant container, such as a plastic bag.

Cockpits

1. Gloves when entering or leaving an aircraft — Handlers have the option of whether to wear chemical-resistant gloves when entering or leaving an aircraft used to apply pesticides, *unless* the pesticide product labeling requires chemical-resistant gloves to be worn for these activities. If gloves are worn for such a use, then if they are brought inside the cockpit, handlers must store the used gloves in a enclosed container, such as a plastic bag, to prevent contamination of the inside of the cockpit.

2. Open cockpits — In an open cockpit, handlers must wear any gloves, respirator, and body protection listed on the pesticide labeling for application tasks. However, they may wear:

- shoes and socks instead of chemical-resistant footwear,
- a helmet instead of a chemical-resistant hat or hood, and
- a visor instead of protective eyewear.

3. Enclosed cockpits — In an enclosed cockpit, handlers need not wear all the PPE listed on the pesticide labeling, but must wear at least:

- long-sleeved shirt and long pants, and
- shoes and socks.

